

REMARKS

Claims 1-9 are presently pending, while claims 10-29 stand withdrawn. By the present amendment, claims 1, 3, 5 and 6 are amended, claims 4 and 7-9 are canceled, and claim 30 is added.

The Examiner has rejected claims 1-9 under 35 USC §102(b) as being anticipated by U.S. Pat. No. 6,902,118 to Shank et al. ("Shank"). With particular reference to Fig. 5 of Shank, the Examiner asserts that the inner coiled tube 33 represents the claimed heating element, while the serially connected outer coiled tube 36 represents the claimed heat dissipator, whereby the outer coiled tube forms a flow channel and heat is transferred from the inner coiled tube to fluid flowing through the outer coiled tube.

Claim 1 has been amended for further clarity. Specifically, the claimed at least one heat dissipator is defined as having at least one wall that at least partially defines a substantially linear liquid flow channel. The outer coiled tube 36 of Shank is, by definition, coiled and thus cannot form a substantially linear liquid flow channel.

Claim 1 has been further amended to recite that the flow channel has first and second open ends, whereby liquid flows within the flow channel primarily in one direction through convection, from the liquid heating chamber into a first open end

to a second open end and into the liquid heating chamber. In contrast, the coiled tubes of Shank are closed. With respect to the embodiment depicted in Fig. 5 of Shank, liquid from a reservoir is received at an inlet connected to the outer coiled tube 36. The outer coiled tube is fluidically coupled to the inner coiled tube 33, and fluid exiting the inner coiled tube 33 passes through an outlet on the way to spray nozzles 37. Shank thus fails to teach or suggest the use of a liquid flow channel having open ends, and that the open ends communicate with the liquid heating chamber. Claim 1 is thus believed to be distinguishable from Shank.

Claims 2, 3, 5, 6, and 30 are dependent from claim 1 and are thus believed to be in condition for allowance for the reasons asserted above.

In addition, claim 2 recites a liquid temperature sensor for sensing a temperature generally representative of the liquid within the liquid heating chamber. In contrast, the Shank reference describes the use of a temperature sensor for measuring the temperature of the washer fluid supplied to windshield spray nozzles (Shank, col. 2, ll. 47-50). Clearly, the fluid temperature within the fluid flow path of Shank is not uniform between the inlet and the outlet of the serially-connected tubes

of the heater 31. Further, the temperature sensor of Shank is said to measure the temperature of liquid within the tube proximate the temperature sensor, not of liquid within a liquid heating chamber, as recited in claim 2. Thus, Shank fails to disclose a heat dissipator configured and operative to enhance the homogeneity of liquid heating, as claimed.

Claim 3 recites heat dissipator walls that are non-uniform in thickness along a longitudinal axis of the liquid heating chamber. In contrast, and acknowledging that Shank depicts serially-connected tubes of differing diameter, Shank does not provide any description of varying thickness in the walls defining the fluid path. Claim 3 is thus believed to be distinguishable from the teaching of Shank.

Claim 5 has been amended to recite at least one aperture through the at least one wall of the heat dissipator, the aperture communicating with the liquid flow channel. The inlet to the outer coiled tube 36 of Shank is not through the wall of the conduit formed by the outer coiled tube. Rather, it is a terminal end of the tube. The subject matter of claim 5 is thus believed to be distinguished from the teachings of Shank.

Claim 6 has been amended to recite the formation of first and second fluid flow gaps between the at least one heat dissipator

and the liquid heating chamber. Heated liquid then circulates by convection out the second open end and into the second fluid flow gap, between the at least one heat dissipator and the liquid heating chamber cylindrical sleeve, and through the first fluid flow gap into the first open end. The fluid flow path in Shank appears to be closed and continuous. Fluid is pumped from the reservoir 35, through the housing 50, to the spray nozzle 37 by action of a reservoir pump 45a; no circulation is described nor possible.

In view of the foregoing amendments and remarks, Applicant respectfully requests that the Examiner reconsider the rejections and allow the claims. The Examiner is invited to contact Applicant's below-signing representative if a telephone conference would be of use in forwarding the present application towards allowance.

Respectfully submitted,

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